ORNITOLOGIA

THE SUBSPECIFIC CHARACTERS AND DISTRIBUTION OF THE NEW WORLD SKIMMERS (*RYNCHOPS NIGRA*)

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The distribution of the forms of the New World rayador, or skimmer, *Rynchops nigra*, and the characters that mark the geographic races, have been matters of interest to me for a number of years, an interest heightened by recent discussions in current literature of the identity of the birds found on the Pacific coast of México, and far to the south in Chile. Investigation into these matters with the material available in the National Museum not being conclusive, specimens from México and the West Indies southward to Argentina and Chile in other large collections in the United States have been assembled through the courtesy of Dr. Robert Cushman Murphy of the American Museum of Natural History, James L. Peters of the Museum of Comparative Zoology, W. E. C. Todd of the Carnegie Museum, and Dr. Karl P. Schmidt of the Field Museum of Natural History. I have also to thank Dr. Alden H. Miller for the use of one specimen from Chubut in the Museum of Vertebrate Zoology, and Dean Amadon for certain notes on this group of birds that he had assembled.

As a general observation, it may be recorded that many of the specimens examined either do not have the sex recorded, or have it obviously wrongly indicated. Males are larger than females, this being especially evident in the size of the bill. Wing and tail measurements in many are uncertain as the ends of the feathers often are frayed and broken, so that there is considerable variation in length. The localities given in the ranges are based mainly on specimens at hand, as there are many uncertainties among published records that have appeared recently.

Rynchops nigra nigra Linnaeus.

Rynchops nigra Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 138 (Coast of South Carolina).

CHARACTERS.—White edgings on secondaries broad; tail extensively white, varying from a condition in which the two outer rectrices are entirely white, except for the shaft, and the others are edged broadly with white, to one where there is some dark color on the inner webs of all; under surface of wing with a definite, practically continuous, narrow border of black or neutral gray along the anterior margin; under wing-coverts, except for the dark band just mentioned, usually pure white, in some specimens, however, tinged with gray throughout, or grayish on the external rows and on the ends of the longer feathers.

MEASUREMENTS.—Males (31 specimens) wing[1] 364-401 (380), tail[2] 112.0-128.1 (120.4), culmen 63.7-73.8 (69.5), tarsus, 30.8-37.8 (34.8) mm.

Females (12 specimens) wing 331-362 (342), tail[3] 102.6-112.8 (108.4), culmen 51.8-64.8 (56.4), tarsus 26.6-33.7 (30.1) mm.

RANGE.—Breeding along the Atlantic Coast of the United States of America from Long Island (formerly north to Massachusetts) and New Jersey to Coronado Beach at Mosquito Inlet, Florida, and on the Gulf of México from Passage Key, Tampa Bay (formerly from Charlotte Harbor) along the coasts of Alabama, Mississippi and Louisiana to Cameron County, Texas, probably also on the northwest coast of México; south in winter to Central America, including the Pacific coast (recorded from the west coast of México, Guatemala and El Salvador), casually to Cuba and Bahama Islands. Recorded from Lake Hicpochee in the Okechobee region of southern Florida, but otherwise only casual at inland localities. Occurence on the northern coast of South America requires verification, as do supposed breeding records for Yucatán. On March 21, 1931 I recorded two at sea about 5 miles from Inagua Island in the Bahamas.

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[1] 27 specimens.

[2] 29 specimens.

[3] 11 specimens.

DISCUSSION.—For years uncertainty has existed with regard to the identity of the few specimens of skimmers that have been collected along the Pacific coast of México and Central America. Ridgway[4] listed these under *R. n. intercedens*, while Griscom recently has proposed a new form named *oblita* from this area.[5] However, nine that Van Rossem obtained at Laguna Olomega, El Salvador, August 19, 1925, and February 3 to 15, 1926, he found to be typical *nigra*.[6]

These west coast birds have been said to differ from *nigra* in a grayish tinge on the under wing, and in reduced amount of white on the tips of the secondaries. In a good series representing typical *nigra* from the southeastern coast of the United States the under wing-coverts, except for the dark marginal band, in most individuals are pure white. In some specimens, however, the under wing surface is tinged lightly with gray throughout, or the external coverts and the ends of the longer ones are grayish. This condition is found in a number of immature individuals, and in some adults.

A specimen (U. S. N. M. no. 33700) from Acapam on the Pacific Coast of Guatemala, taken by Salvin in January, 1863, at the same time as the type of *oblita* in the British Museum, has the under wing distinctly gray throughout. One (U. S. N. M. no. 14151) from Manzanillo, Colima, also is extensively gray on the under wing. A third (U. S. N. M. no. 30213) from the Zacatula River, at the coast between Michoacán and Guerrero, has gray evident on the outer, and the tips of the longer, under wing-coverts. These represent the style called *oblita* by Griscom.

From the Atlantic coast of the United States I find one fully adult male (U. S. N. M. no. 293150) from Smiths Islands, Va., which has an extensively gray under wing, and another adult male (U. S. N. M. 221833) from Christchurch Parish, opposite Charleston, S. C., that is slightly paler gray. Several other specimens from Smiths Island show the gray to greater or lesser degree. At the same time we have one (U. S. N. M. 59766) taken August 9, 1869 at San Mateo on the coast of Oaxaca that is pure white on the under wing surface, as are two (Field Museum nos. 111342-111343) that I have seen from San Miguel, Laguna Olomega, El Salvador. An adult male (Museum

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[4] U. S. Nat. Mus. Bull. 50, pt. 8, 1919, p. 454.

[5] *Rynchops nigra oblita* Griscom, Ibis, 1935, p. 545 (Acapam Lagoon, Pacific coast of Guatemala).

[6] Field Mus. Nat. Hist., Zool. ser., vol. 23, 1938, p. 134.

Comparative Zoology 160878) from Viejo Yaqui Lagoon, Sonora, also is white.

As for the supposed reduction of white on the secondaries I can detect no constant differences.

The outer rectrices in some birds from the southeastern United States have the outer feather clear white except for the shaft, which is brownish gray, darker toward the base, and the second and third feathers also with much white. In the greater number, however, the outer rectrix has an area of light gray to brownish gray near the tip of the inner web. The extent of this varies individually, some having the gray darker and more extensive, while an occasional bird has the dark color extended at the tip for a short space on the outer web. In these specimens the dark color on this inner web extends continuously along the shaft toward the base of the feather. The maximum extent of this color is found in one (U. S. N. M. no. 222,000) from Christchurch Parish, South Carolina.

The bird from Viejo Yaqui Lagoon, Sonora, mentioned above has the shaft. The mark in this bird is darker and heavier than in any extending in a definite, unbroken line along the entire inner side of the shaft. The mark in this bird is darker and heavier than in any other northern specimen seen. The birds from the Zacatula River, western México, and from Acapam, Guatemala, have the dark color prominent, but no more so than in the mostly heavily marked specimen (U. S. N. M. no. 222,000) from near Charleston, South Carolina. There is nothing peculiar in the tail markings in the other Pacific coast birds at hand.

The three male birds mentioned above as of the *"oblita"* style have the exposed culmen 74.4, 76.6 and 77.8 mm. thus being slightly longer than usual in specimens taken from Virginia to Texas when the range as given above is 63.7 to 73.8, with an average of 69.5 mm. The other dimensions show nothing worthy of remark. For the present there is nothing sufficiently definite about these western Mexican specimens to indicate that they should bear a separate name. They might be interpreted as carrying some trace of the influence of the more heavily pigmented, larger billed *cinerascens,* an influence that may be detected also in occasional specimens from the southeastern United States.

Rynchops nigra cinerascens Spix.

Rynchops cinerascens Spix, Avium Spec. Nov. Bras., pt. 2, 1825, p. 80, pl. 102 (Río Amazonas, Brazil)

CHARACTERS.—White edgings on secondaries much restricted, when compared with *nigra,* in some birds only slightly evident; tail in adult with dark colors predominating, especially on the inner webs of the feathers, in many the white being reduced to a very narrow margin on the external web of the outer rectrices; in birds in immature or partly immature dress the rectrices often lighter, neutral gray with the white outer edgings as indicated for the adult; under wing-coverts in adult neutral gray, with a definite black margin on the anterior edge of the under wing surface like that in *nigra,* though evident only on close examination because of lack of contrast with the neutral gray adjacent; in the immature or partly immature dress the under wing-coverts lighter gray, sometimes almost white, and the dark anterior edging reduced or almost lacking as in *intercedens.*

MEASUREMENTS.—Males (19 specimens), wing[7] 380-416 (392), tail[8] 111.5-130.3 (113.7), culmen 75.0-87.7 (86.6), tarsus 32.2-38.5 (34.8) mm.

Females (10 specimens), wing 333-375 (353.7), tail[9] 100.3-119.0 (108.8), culmen 59.4-66.8 (64.0), tarsus 28.4-31.5 (30.2) mm.

RANGE.—Coast and rivers of northern South America, from the lower Atrato (Sautatá) and Magdalena Rivers in northern Colombia to eastern Venezuela, Plains of Cumaná, Caicara), Trinidad, (Port of Spain), and Grenada (Glovers Island), south through British Guiana (Buxton, Demerara), Surinam (Tygerbank), French Guiana (Mana), and southern Venezuela (Playa de Candela on the Brazo Casiquiare) to the Amazon and its tributaries (except for the middle course of the Río Araguaya) from Belém inland through Pará (Villa Braga, Santarem), except its southern part, and Amazonas (Manaos, Rio Manacapurú, Conceicão, Rio Branco) to eastern Ecuador (Roca Lagarto) south through eastern Perú (Lagunas, Loreto), and Bolivia (Mision San Antonio, Río Chamore, 1.300 feet, Province of Cochabamba) to Tucumán (Concepción), reaching a point near the Río Paraná in northern Santa Fe, Argentina (Río Amores and San Vicente); on the Pacific coast extending south from Ecuador (Los Ríos, Río San Antonio) probably from Colombia and Perú (Paracas and

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[7] 18 specimens.

[8] 16 specimens.

[9] 8 specimens.

Pisco Bays) to the Straits of Magellan; (skins examined from Papudo, Aconcagua, and Río Bío Bío, Concepción, Chile); one specimen seen from Laguna Esguel, Chubut, Argentina.

DISCUSSION.—The skimmers of South America in habit differ definitely from *R. n. nigra* in that in addition to ranging along the sea coast they follow the larger river systems inland, so that they may be found throughout the continent wherever extensive water habitat is present. The northern skimmer may reach lakes near the coast or, in southern Florida, may penetrate into the Everglades, but in the main is encountered on salt or tidal waters, going only casually far inland.

In its typical form the race *cinerascens* is clearly distinct in the color of the under wing-coverts, which, coupled with some peculiarities in distribution, has lead to its consideration at times as a distinct species. At the north, however, specimens at hand indicate intergradation with *nigra*. A specimen from Glover's Island, Grenada (U. S. N M. no. 354,140) has the under wing surface light gray, with the white on the tips of the secondaries extensive. The tail is dark as in *cinerascens*. Three from Port of Spain, Trinidad (A. M. N. H. 747,791-747,793) have the under wing grayish white, but in these the tail is dark, and the white on the secondaries reduced. All, including the bird from Glover's Island, are immature, which probably accounts in part for the lighter gray under wing. Other immature birds from the Plains of Cumaná, Venezuela, and Sautatá on the Río Atrato, Colombia, are similar but a little darker. This quite evidently is the stage named *intermedia* by Rendahl.[10] Hellmayr[11] has used this name for the form of *Rynchops* found on the coastal waters of Chile. Count Gyldenstolpe[12] has pointed out from examination of the type that the characters of *intermedia* appear uncertain. The four specimens at hand from Chile, three from Papudo, Aconcagua (Field Mus. Nat. Hist. 62,438-62,440) and one from the Río Bío Bío (A. M. N. H. 747790), do not include individuals that are fully adult. There is another skin available from Laguna Esguel, Chubut (Mus. Vert. Zool. 42,775) that is also immature. While birds of this age are not represented in the series before me from the Amazon River I can see no differences between the skins from Chile and others in similar stage of plumage from Plains of Cumaná, eastern Venezuela, Surinam, and French Guiana. It appears therefore that *intermedia* is to be placed as a synonym of *cinerascens*. In the material now available from the extended range of *cinerascens* there is no evidence of geographic variation, though it might be expected that the populations of such widely different areas as the Amazon basin and the coast of Chile would differ.

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[10] *Rynchops melanura intermedia* Rendahl, Ark. für Zool., vol. 12, 1919, pt. 8, p. 12 (Harbor Head, Río San Juan del Norte, Nicaragua).

[11] Field Mus. Nat. Hist., Zool. Ser., vol. 19, 1932, p. 403.

[12] Ark. für Zool. Bd. 19A, no. 1, 1926, p. 104.

There are two old skins in the Museum of Comparative Zoology (nos. 7810, 7819) marked Pernambuco but without other data. It is believed that the locality is erroneous as modern specimens from Brazil, east of Belém, are reported to be *R. n. intercedens*.

Of especial interest are the two specimens recorded by Hartert and Venturi[13] taken November 11, 1903 at San Vicente and the Río Amores, points in the Chaco of the northern part of the Province of Santa Fe, Argentina. These two (A. M. N. H. 747804-747805) are fully adult birds, wholly typical of *cinerascens*, though secured only a short distance from the Río Paraná in a region where *intercedens* would be expected At this point these two races apparently may occur almost, if not actually, at the same point. Whether the eggs that Venturi describes as found at the same place as those of the Large-billed Tern (*Phaetusa simplex chloropoda*) i. e., near Bellavista, said to be opposite Corrientes, and therefore very near, if not on, the Paraná, are those of *cinerascens* or of *intercedens* needs to be ascertained. Probably they may belong to the latter as they were secured at a different date from the two skins.

The Museum of Comparative Zoology has one specimen from Lake Titicaca, Perú.

Rynchops nigra intercedens Saunders.

Rynchops intercedens Saunders, Bull. Brit. Orn. Club, vol. 4, March 30, 1895, p. 26 (São Paulo, Brazil).

CHARACTERS.—White edgings on secondaries somewhat variable, but averaging slightly less than in *R. n. nigra*; under wing-coverts white, sometimes with a slight grayish cast, the dark line along the anterior margin of the under wing surface broken, irregular, or decidedly narrower than in *nigra;* tail variable, but in the majority dark in color, with more or less extensive white edgings; size about as in *cinerascens*, averaging longer wing and larger bill than *nigra*.

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[13] Nov. Zool., vol. 16, December, 1909, p. 254.

Measurements.—Males (6 specimens), wing 369-425 (395), tail 119.7-129.5 (124.4), culmen 73.0-85.5 (79.7), tarsus 29.7-37.0 (34.3) mm.

Females (8 specimens), wing[14] 334-374 (354), tail[14] 99.7-126.7 (111.4), culmen 53.7-65.0 (61.1), tarsus 27.2-31.8 (29.7) mm.

Range.—From the Province of Buenos Aires, (Avellaneda, Estancia San Martino, Monte, General Lavalle, Conchitas) Argentina, northward along the Atlantic coast and through the drainage of the Paraná and Paraguay Rivers to Matto Grosso and southern Pará along the Río Araguaya (Conceicão do Araguaya), northern Goyaz (Lagoa Grande, Rio Araguaya, 550 m.) and Maranhão, including thus Paraguay (La Paz), southern and eastern Brazil (Ilha, Alto Rio Paraná, San Sebastião, São Paulo) and Uruguay.

Discussion.—This race combines the average larger size of *cinerascens* with the white under wing surface of *nigra,* the two forms in which white prevails being completely separated by the heavily pigmented *cinerascens.*

The amount of white in the tail in *intercedens* is variable, most having the white margins restricted and the dark color more extensive along the inner webs of the outer rectrices when compared with *nigra.* Occasional individuals, however, are almost identical with the northern race, e. g., a female (A. M. N. H. 747,807) taken December 16, 1904 at Avellaneda, Buenos Aires. A few birds, most of them immature, but some adult, have a grayish white cast on the under wing surface suggestive of approach to *cinerascens.*

The occurrence of *cinerascens* near the Río Paraná in northern Santa Fé, Argentina has already been remarked. Another point where that race and the one here under discussion come near, to one another is in northern Maranhão, as Pinto[15] records *intercedens* from Boâ Vista while *cinerascens* is reported at Belém.

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[14] 7 specimens.

[15] Catalogo das Aves do Brasil, pt. 1, 1938, p. 155.